

Abstract of the Disclosure

Provided is a field effect transistor. The field effect transistor includes an insulating vanadium dioxide (VO<sub>2</sub>) thin film used as a channel material, a source electrode and a drain electrode disposed on the insulating VO<sub>2</sub> thin film to be spaced apart from each other by a channel length, a dielectric layer disposed on the source electrode, the drain electrode, and the insulating VO<sub>2</sub> thin film, and a gate electrode for applying a predetermined voltage to the dielectric layer.

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